



## Signal Peptide

## Mature

M R S L L L G T L C L L A V A L A A E V K K  
ATGCGCTCTCTCCTTCTGGGCACCTTATGCCTCCTGGCTGTGGCCCTGGCAGCCGAGGTGAAGAAA  
TACGCGAGAGAGGAAGACCCGTGGAATACGAGGACCGACACCGGGACCGTCCGCTCCACTTCTTT  
P V E A A A P G T A E K L S S K A T T L A E  
CCTGTAGAGGCCCGCAGCCCCTGGTACTGCGGAGAAGCTGAGTTCCAAGGCGACCACACTGGCAGAG  
GGACATCTCCGGCGTCGGGGACCATGACGCCTCTTCGACTCAAGGTTCCGCTGGTGTGACCGTCTC  
P S T G L A F S L Y Q A M A K D Q A V E N I  
CCCAGCACAGGCCTGGCCTTACAGCCTGTATCAGGCAATGGCCAAGGACCAGGCAGTGGAGAACATC  
GGTTCGTGTCCGGACCGGAAGTCGGACATAGTCCGTTACCGGTTCTTGGTCCGTCACCTCTTGTAG  
L V S P V V V A S S L G L V S L G K A T T  
CTGGTGTACCCCGTGGTGGTGGCCTCGTCGCTGGGTCTCGTGTCTGGGCGGCAAGGCAGCACG  
GACCACAGTGGGCACCAACACCGGAGCAGCGACCCAGAGCACAGCGACCCGCCGTTCCGCTGGTGC  
A S Q A K A V L S A E Q L R D E E V H A G L  
GCGTCGAGGCCAAGGCAGTGTGAGCGCCGAGCAGCTGCGCGACGAGGAGGTGCACGCCGGCCTG  
CGCAGCGTCCGGTCCGTCACGACTCGCGGCTCGTCGACGCGCTGCTCCTCCACGTGCGGCCGGAC  
G E L L R S L S N S T A R N V T W K L G S R  
GGTGAGCTGTGCGCTCACTCAGCAACTCGACGGCGCGCAACGTGACCTGGAAGCTGGGCAGCCGA  
CCACTCGACGACGCGAGTGAGTCGTTGAGCTGCCGCGCGTTGCACTGGACCTTCGACCCGTCGGCT  
L Y G P S S V S F A D D F V R S S K Q H Y N  
CTGTACGGACCCAGCTCAGTGAGCTTCGCTGATGACTTCGTGCGCAGCAGCAAGCAGCATAAAC  
GACATGCCTGGGTGAGTCACTCGAAGCGACTACTGAAGCACGCGTCGTCGTTCTCGTCGATGTTG  
C E H S K I N F P D K R S A L Q S I N E W A  
TGCGAGCACTCCAAGATCAACTTCCCGGACAAGCGCAGCGCGCTGCAGTCCATCAACGAGTGGGCC  
ACGCTCGTGAGGTTCTAGTTGAAGGGCCTGTTTCGCGTCGCGCGACGTCAGGTAGTTGCTCACCCGG  
A Q T T D G K L P E V T K D V E R T D G A L  
GCGCAGACCACCGACGGCAAGCTGCCCCGAGGTCACCAAGGACGTGGAGCGCACGGACGGCGCCCTG  
CGCGTCTGGTGGCTGCCGTTTCGACGGGCTCCAGTGTTTCTGACCTCGCGTGCCTGCCGCGGGAC  
L V N A M F F K P H W D E K F H H K M V D N  
CTAGTCAACGCCATGTTCTTCAAGCCACACTGGGATGAGAAATCCACCACAAGATGGTGGACAAC  
GATCAGTTGCGGTACAAGAAGTTCGGTGTGACCTACTCTTTAAGGTGGTGTCTTACCACCTGTTG  
R G F M V T R S Y T V G V T M M H R T G L Y  
CGTGGCTTCATGGTGA CTGCGTCTATACTGTGGGTGTTACGATGATGCACCGGACAGGCCTCTAC  
GCACCGAAGTACCACTGAGCCAGGATATGACACCCACAATGCTACTACGTGGCCTGTCCGGAGATG  
N Y Y D D E K E K L Q L V E M P L A H K L S  
AACTACTACGACGACGAGAAGGAGAAGCTGCAGCTGGTGGAGATGCCCCCTGGCTCACAAGCTCTCC  
TTGATGATGCTGCTGCTCTTCTCTTCGACGTCGACCACCTCTACGGGGACCGAGTGTTTCGAGAGG  
S L I I L M P H H V E P L E R L E K L L T K  
AGCCTCATCATCCTCATGCCCCATCACGTGGAGCCTCTCGAGCGCCTTGAAAAGCTGTACCAAAA  
TCGGAGTAGTAGGAGTACGGGGTAGTGACCTCGGAGAGCTCGCGGAACCTTTTCGACGATTGGTTT  
E Q L K I W M G K M Q K K A V A I S L P K G  
GAGCAGCTGAAGATCTGGATGGGGAAGATGCAGAAGAAGGCTGTTGCCATCTCCTTGCCCAAGGGT  
CTCGTCGACTTCTAGACCTACCCCTTCTACGTCTTCTTCCGACAACGGTAGAGGAACGGGTTCCCA  
V V E V T H D L Q K H L A G L G L T E A I D  
GTGGTGGAGGTGACCCATGACCTGCAGAAACACCTGGCTGGGCTGGGCCTGACTGAGGCCATTGAC  
CACCACCTCCACTGGGTACTGGACGTCTTTGTGGACCGACCCGACCCGGA CTGACTCCGGTAAC TG  
K N K A D L S R M S G K K D L Y L A S V F H  
AAGAACAAGGCCGACTTATCACGCATGTCTGGCAAGAAGGATCTGTACCTGGCCAGTGTGTTCCAC  
TTCTTGTTCGGCTGAATAGTGCCTACAGACCGTCTTCTCTAGACATGGACCGGTACACAAAGGTG  
A T A F E L D T D G N P F D Q D I Y G R A E E  
GCCACCGCCTTTGAGTTGGACACAGATGGCAACCCCTTTGACCAGGACATCTACGGGGCGGAGGAG  
CGGTGGCGGAAACTCAACCTGTGTCTACCGTTGGGGAAACTGGTCTCTGATAGTCCCCGCGCTCCTC  
L R S P K L F Y A D H P F I F L V R D T Q S  
CTGCGCAGCCCCAAGCTGTTCTACGCCGACCACCCCTTCATCTTCTTGGTGGGGACACCCAAAGC  
GACGCGTCGGGGTTCGACAAGATGCGGCTGGTGGGGAAGTAGAAGGACCACGCCCTGTGGGTTTCG  
G S L L F I G R L V R L K G D K M R D E L •  
GGCTCCCTGCTATTTCATTGGGCGCCTGGTCCGGCTCAAGGGTGACAAGATGCGAGACGAGTTATAG  
CCGAGGGACGATAAGTAACCCGCGGACCAGGCCGAGTTCCCACTGTTCTACGCTCTGCTCAATATC

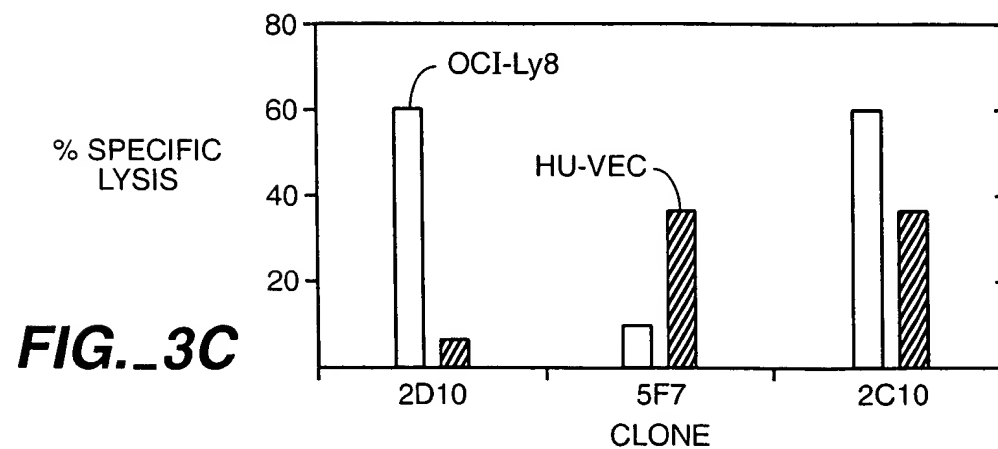
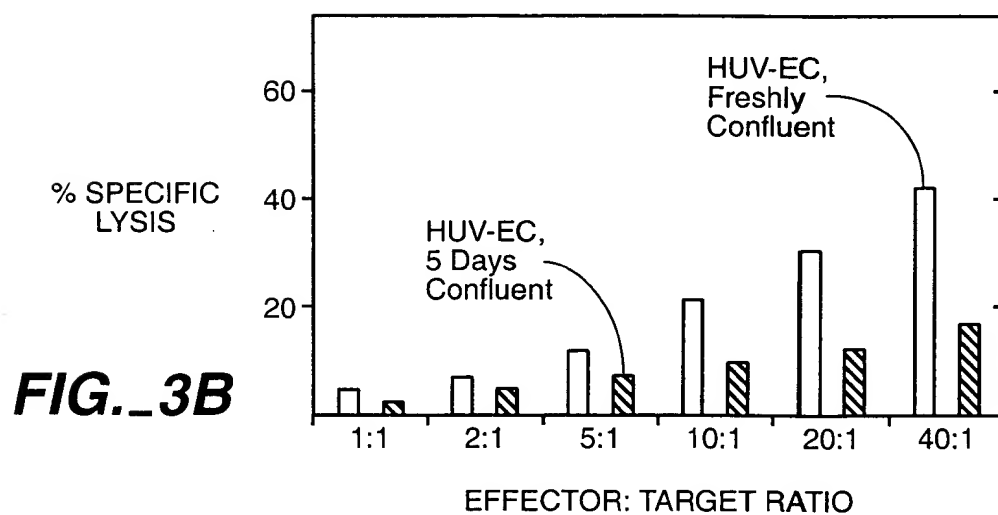
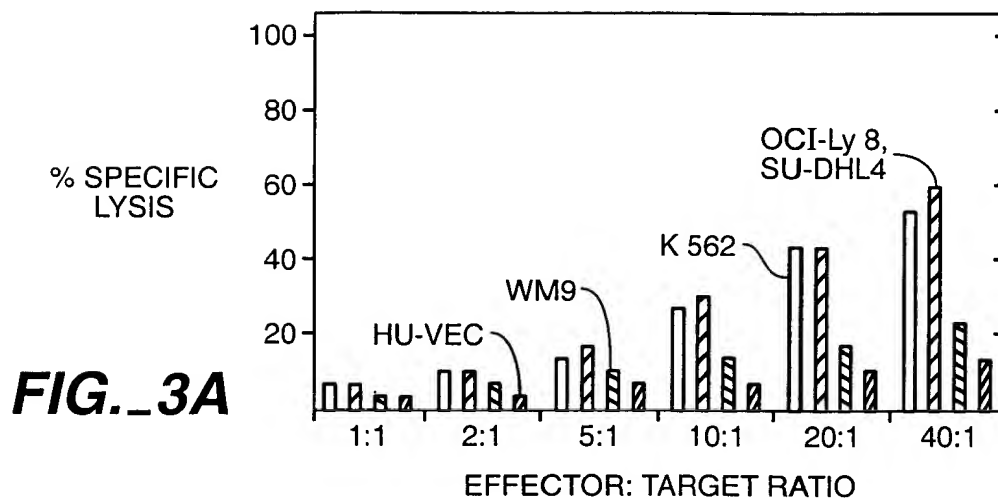
**FIG.\_1**

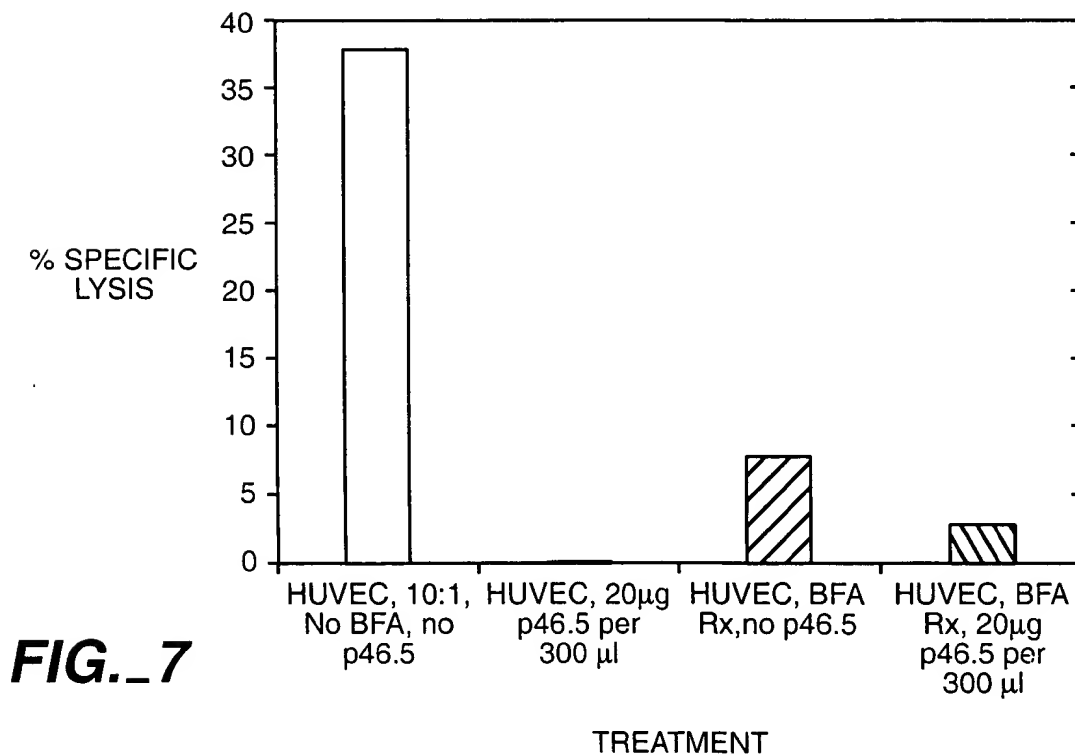
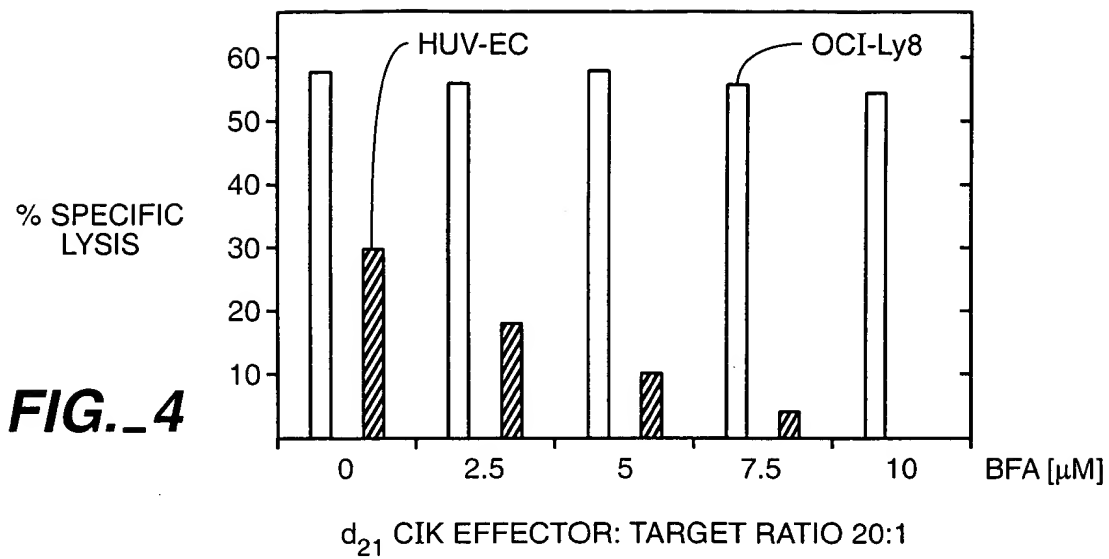


### Alignment of HSO47 with HLA/IL-12 $\beta$ Chains

<u>Molecule</u>	<u>Position</u>	<u>Amino Acid Sequence</u>	<u>Position</u>
Human Hsp47	96	AvlsAEQLR	104
Hu Colligin 2	95	AVLSAEQLR	103
HLA-A2 A*0201	149	AahvAEQLR	157
HLA-A2 A*0204	167	AahvAEQLR	175
HLA-A2 A*0206	175	AahvAEQLR	183
HLA-A2 A*0211	166	AahvAEQLR	174
HLA-A10 alpha	84	AahvAEQLR	92
HLA-Aw 69	150	AahvAEQLR	158
Rat Hsp47	94	AVLSAEkLR	102
Mouse Hsp47	94	AVLSAEkLR	102
Hamster Hsp47	94	AVLSAEkLR	102
Chicken Hsp47	82	AVLSAdkLn	90
Hu IL-12 $\beta$ -chain	150	AtLSAErvR	158
mouseIL1 2 $\beta$ -chain	150	AtLSAErvR	158
cat IL-12 $\beta$ -chain	150	AtLSAEkvR	158
cow IL12 $\beta$ -chain	150	AlLSAEkvn	158
Consensus HSP		AVLSA(d,e)(k,q)LR	
Consensus HLA		A(v,a)(l,h)(a,v)AEQLR	
Consensus IL-12 $\beta$ -chain		A(v,l,t)LSAE(q,k,r)(l,v)R	
Overall Consensus		A(v,l,a,t)(l,h)(a,v)A(d,e)(k,q,r)(l,v)R	

**FIG.\_2**







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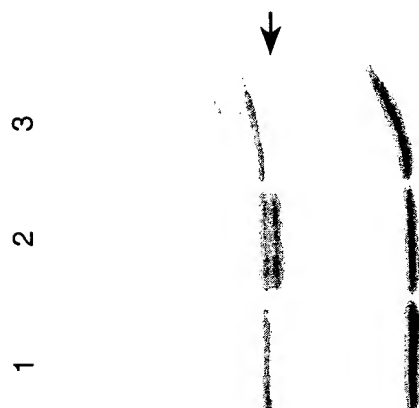


FIG.\_5C

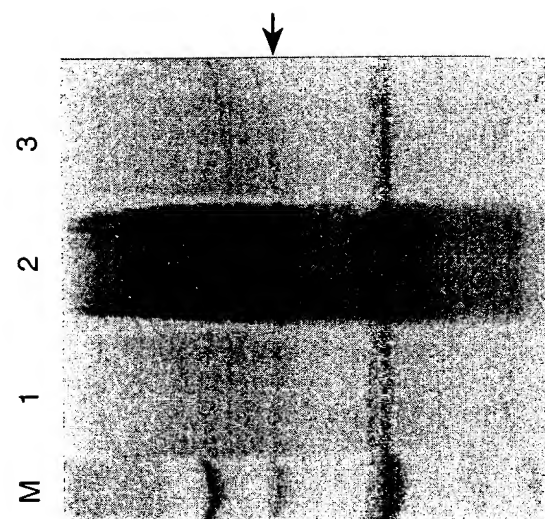


FIG.\_5B

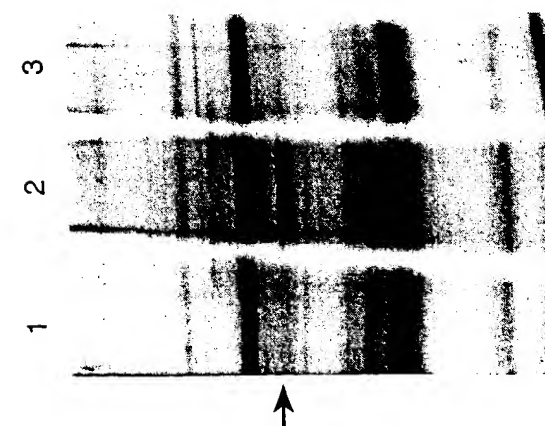
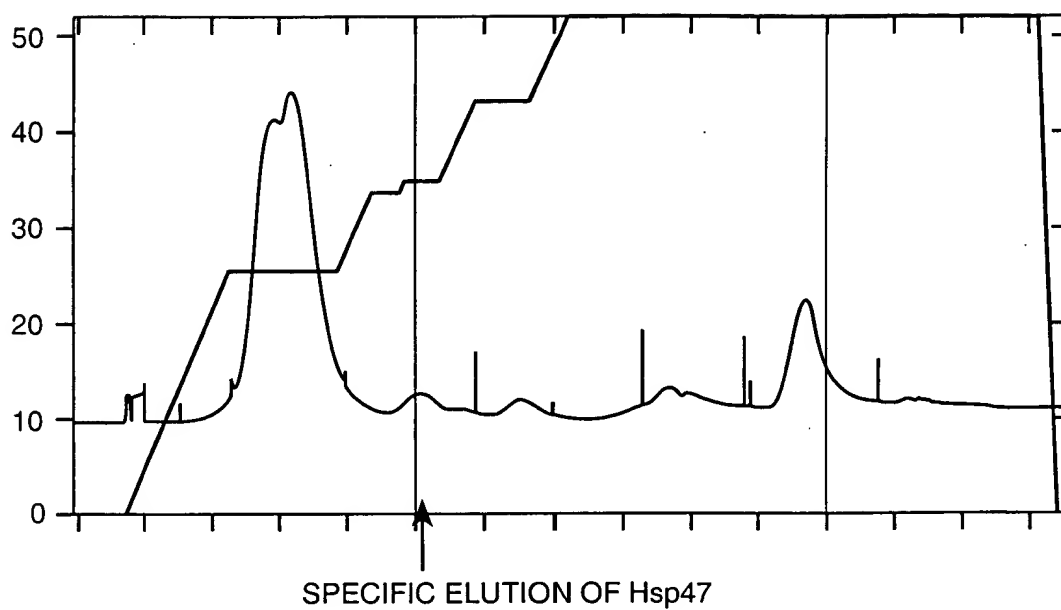


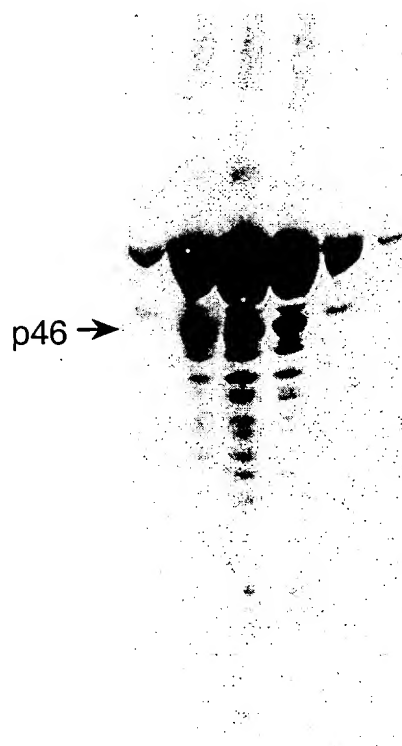
FIG.\_5A



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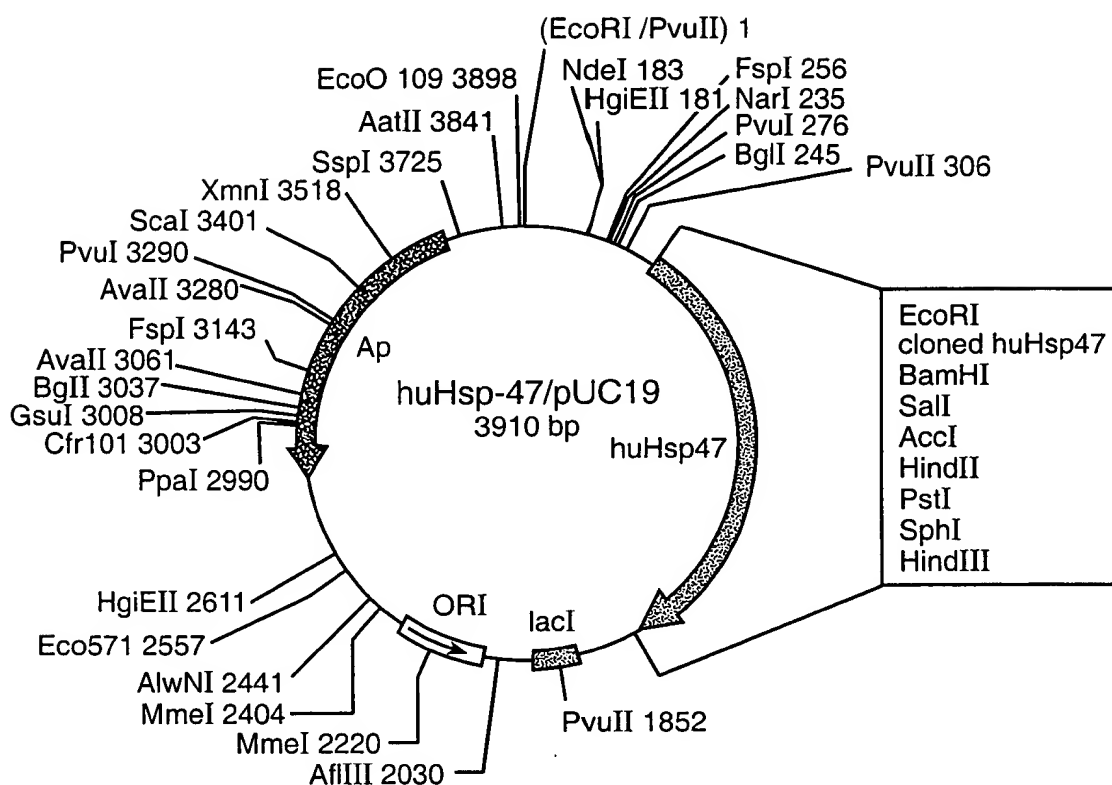
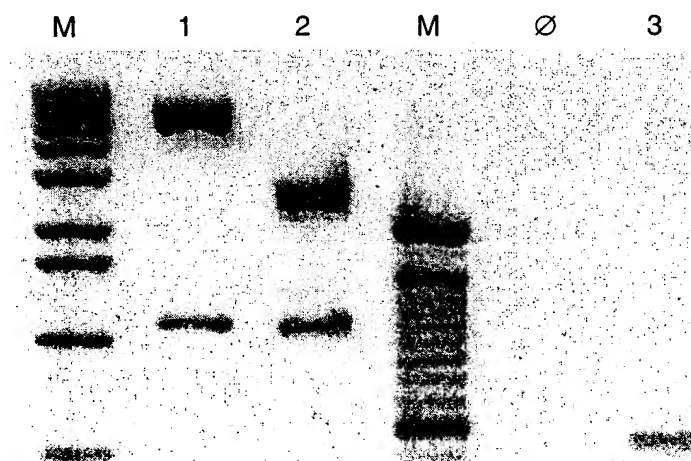
**FIG.\_6A**



**FIG.\_6B**



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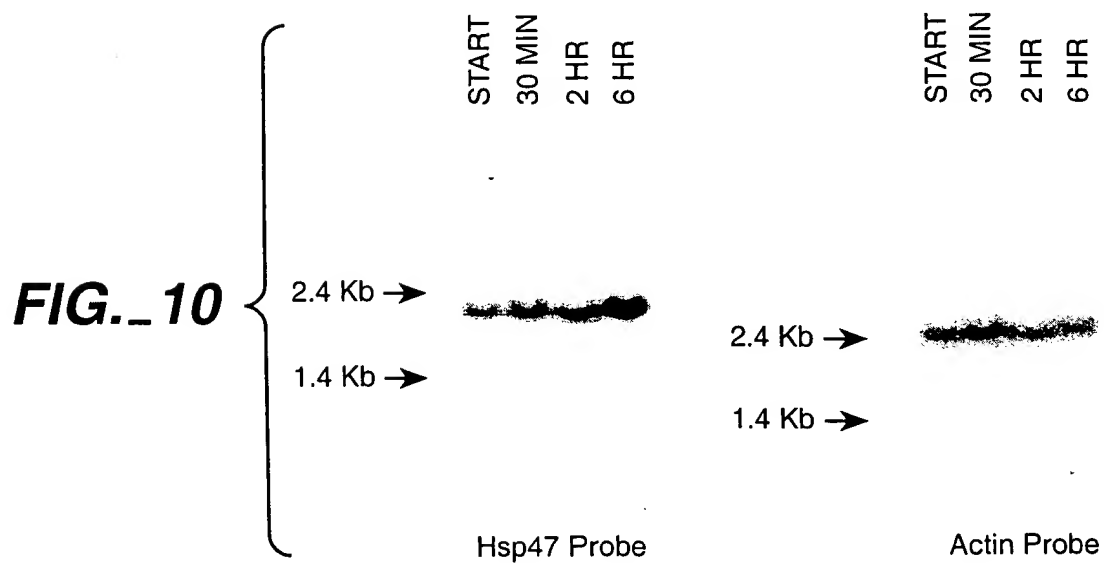
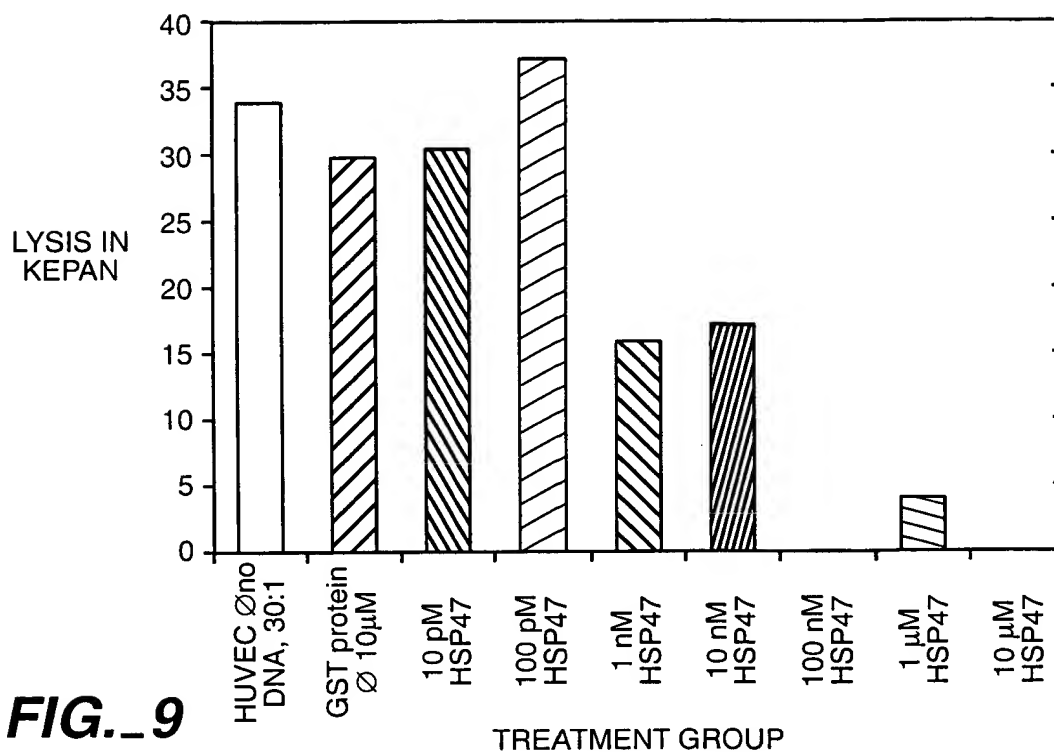
**FIG.\_8A****Plasmid name:** huHsp47/pUC19**Plasmid size:** 3910 bp**Constructed by:** Ernest-G. Hope**Construction date:** 1996

**Comments/References:** puc 19 based huHsp47 gene cassette derived from 2 partial clones in pCR1000/pGEM via primers (A. 5' -ACGTTTGGATCCAGGTGAAGA, 3' -GTCCTTGGCCAT B. 5' GCAATGGCCAAGGACCAGGCAGTGGAG, 3' ATCTGAATTCCTATAACTCGTCTCGCA)

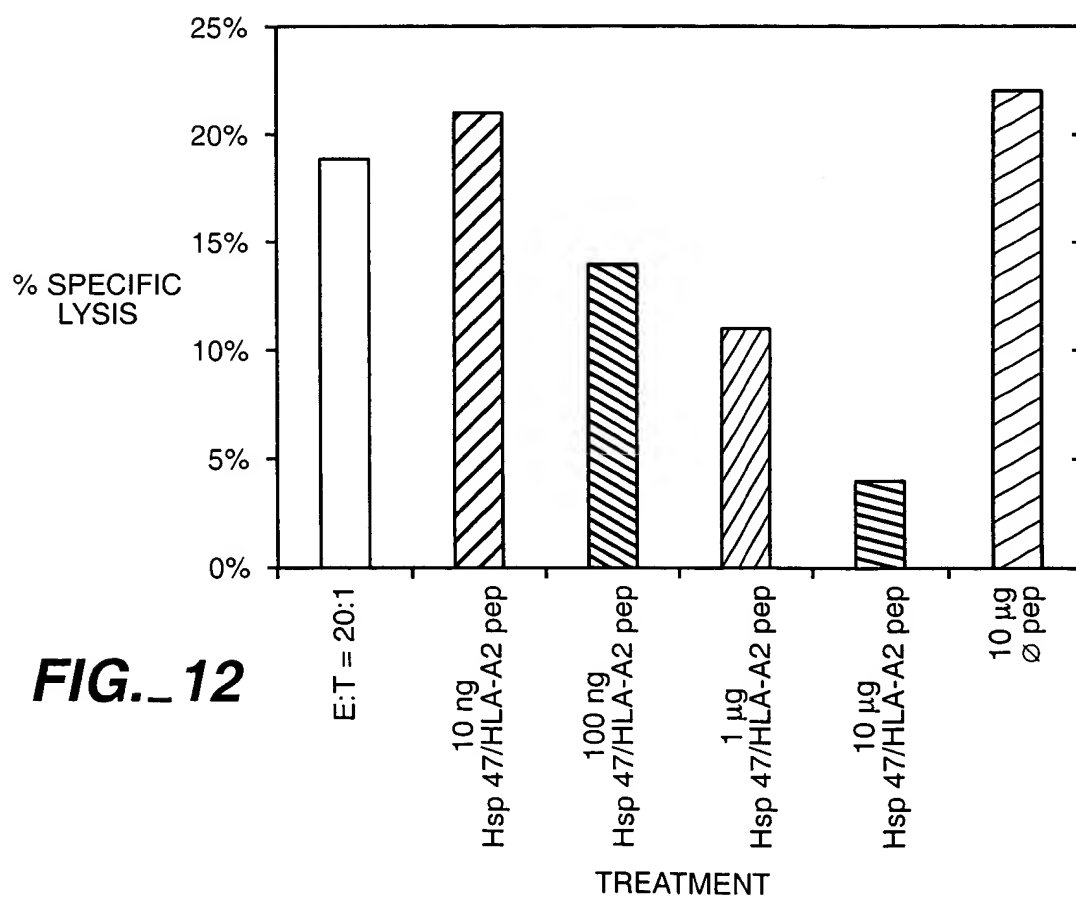
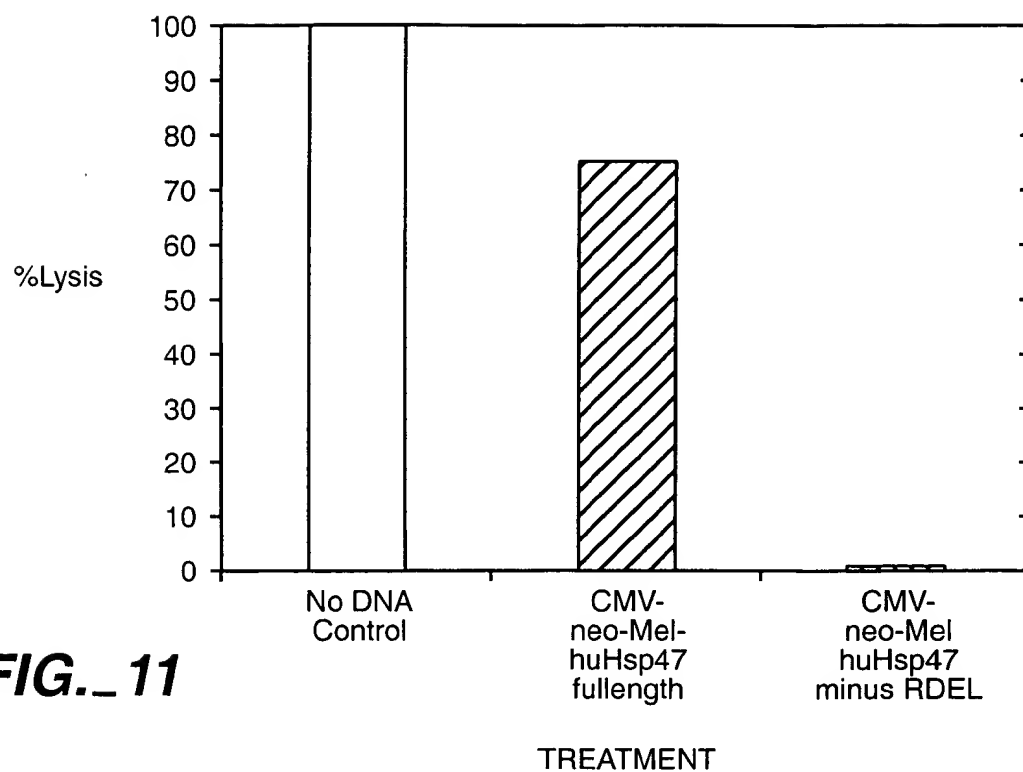
**FIG.\_8B**



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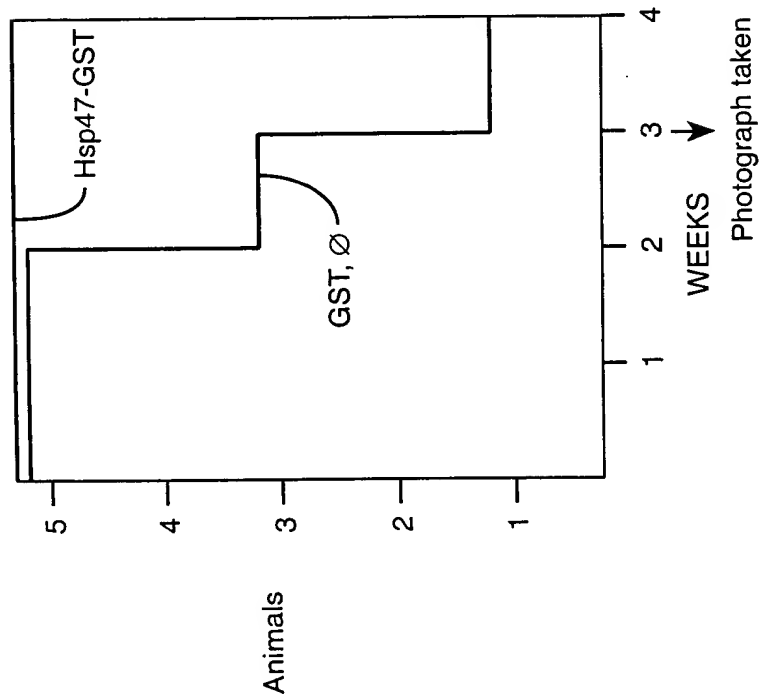
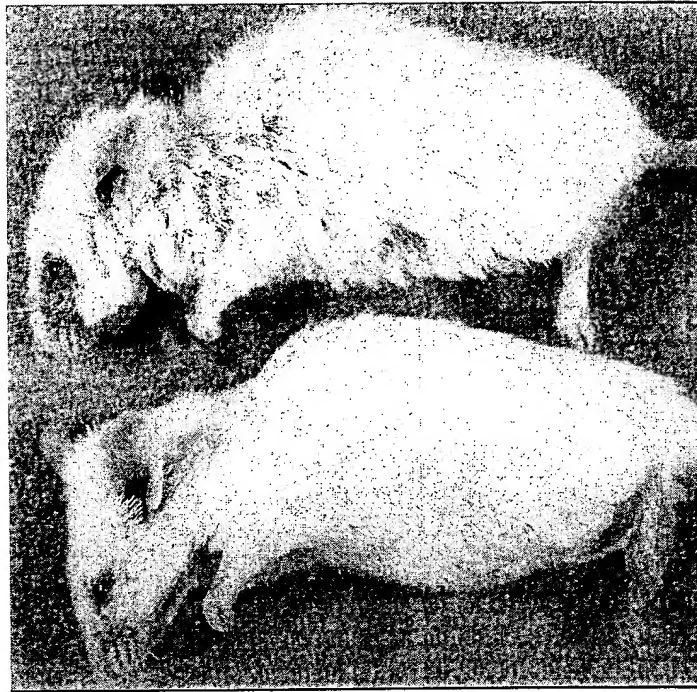








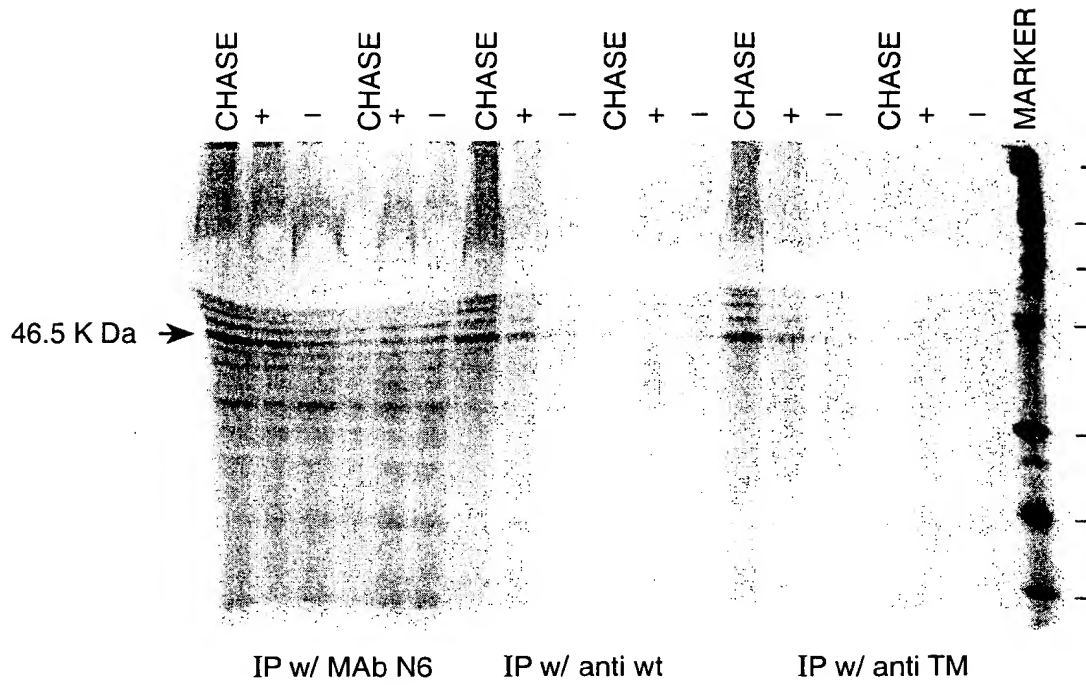
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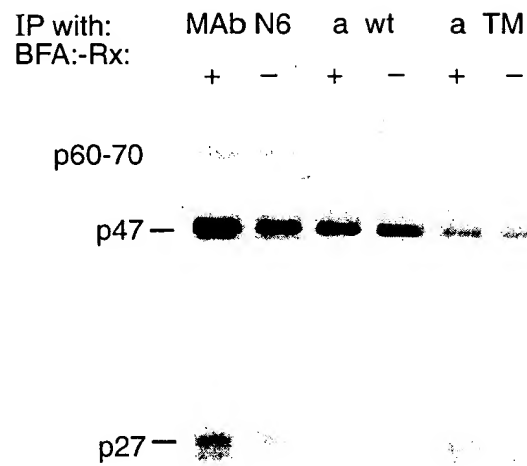
**FIG. 13**



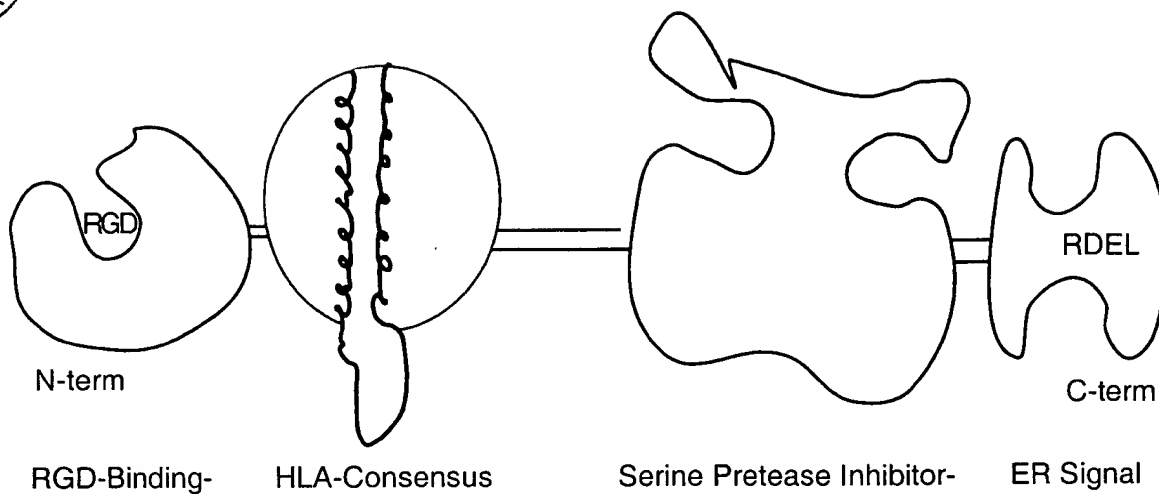
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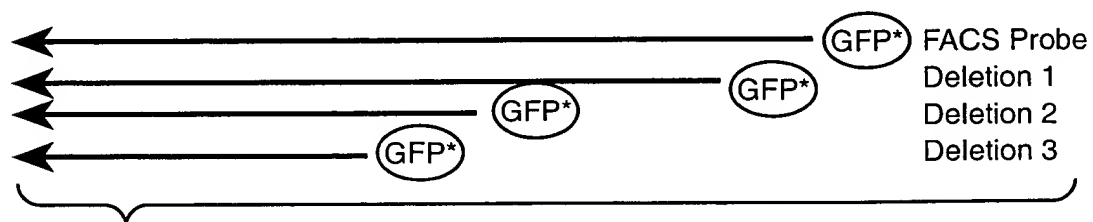
**FIG.\_14A**



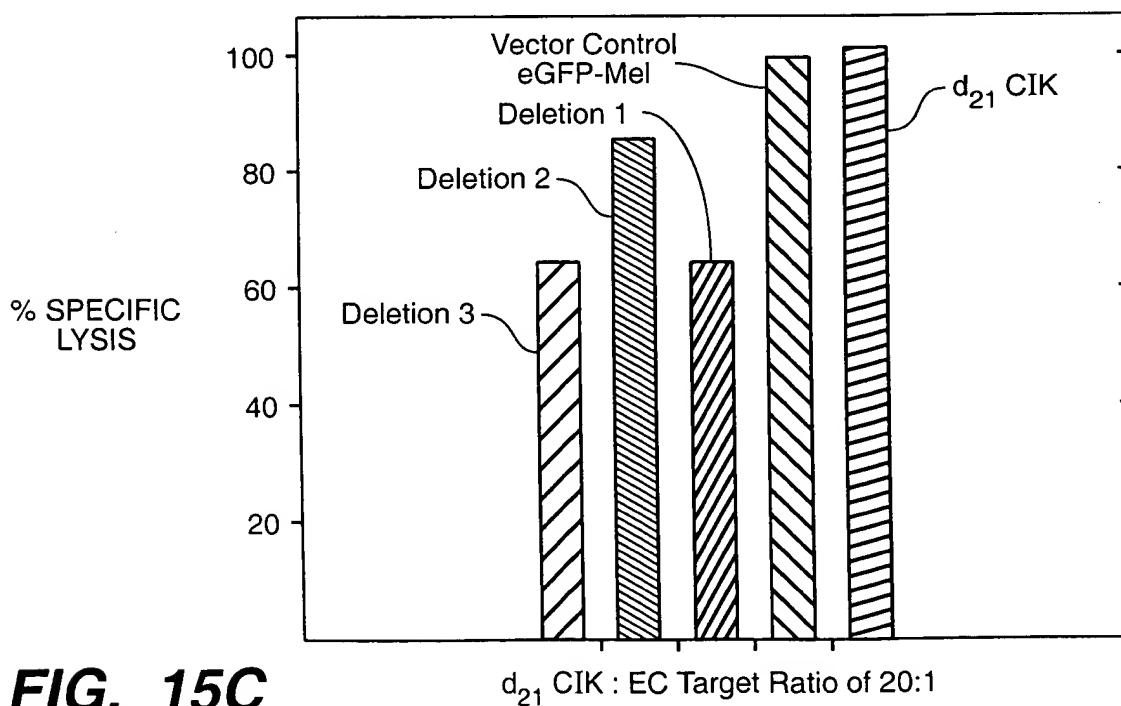
**FIG.\_14B**



**FIG.\_15A**



**FIG.\_15B**



**FIG.\_15C**